

# Amateur Radio programs for Spectrum computers

SOFTWARE BY

# G4HLX

## UoSAT decoding programs

The University of Surrey satellites **UoSAT-1/OSCAR-9** and **UoSAT-2/OSCAR-11** provide the amateur satellite enthusiast with a variety of experimental data and general news and information by 1200 baud data transmissions on 145.825 MHz FM. These can be received on a simple FM receiver (e.g. 2m amateur band RX) and decoded using the programs SUDD, SPIX or WOSP running on a ZX Spectrum computer (48K or 128K) with *no additional hardware*.

The audio signal from the receiver's loudspeaker output is fed directly to the Spectrum *ast* socket (or recorded on cassette first) and the decoding is done entirely by the software. While this happens, the screen shows a *front panel* display with status *lights* to show the progress of the data reception.

The stored data can then be processed in the appropriate way (depending on what type of data the UoSAT was sending), and can also be saved on cassette tape, microdrive, etc. for later use. The three programs deal with different types of data:

### SUDD

This is the principal program of the three. It decodes all ASCII text transmissions (e.g. news bulletins, diary messages, DCE frames - including Keplerian elements) from both UoSAT-1 and 2, and also decodes the analogue values and status points from the standard telemetry frames and presents these in a neat tabular form.

Either 32 or 64 characters per line can be selected for display of text on the screen, and can be had on an attached printer if desired.

Supplied with 11 pages of information including basic advice on receiving UoSAT signals, plus instructions for using the demodulator routine, and the 64 character/line print routine, in your own programs, should you want to.

### SPIX

Decodes and displays pictures from the CCD imager on UoSAT-1/OSCAR-9. The full 256x256 resolution is reproduced, and may be printed (using a ZX printer, Alphacom 32, or similar) with full 16-level grey scale information. At present the limitation in the images produced lies in the quality as transmitted by the satellite.

(Note: SPIX cannot decode UoSAT-2/OSCAR-11 images, which use a different format).

### WOSP

Automatic graph plotting program to display the Whole Orbit Survey data sent by UoSAT-1 and 2, the experimental data gathered by the satellites over a period of one or more orbits. Fully labelled graphs are produced, covering the period for which data was received (which may be any portion of a survey). A sub-range of this period may be selected to expand a portion of the plot to show greater detail.

Each program is supplied on cassette tape, and will automatically back up onto microdrive or Opus disc if desired. A detailed instruction booklet is included with each program.

All programs are compatible with any 48K or 128K Spectrum model (SUDD only in "48K mode" on 128K machines).

**Price: £5 each, or all three for £13.**

(including postage within U.K.)

See overleaf for ordering information.

## Programs for VHF operators

Two programs for VHF/UHF amateur radio enthusiast in Europe, to simplify the finding of station locations in the various locator systems, calculate distances and bearings, score contest entries, and keep records of locator squares worked and confirmed.

### SPOT

A comprehensive location aid for radio amateurs

- fast, simple conversions between universal IARU locator ("Maidenhead" system), QRA locator ("European QTH locator"), national grid reference and latitude/longitude
- for all conversions, full display of uncertainties due to overlapping squares, etc.
- rapid calculations of distance to another location, plus contests points, bearing (beam heading) and return bearing
- high resolution graphic map of Europe shows locations and great circle paths between
- contest log scoring facility accepts mixture of universal locator and QRA locator entries, and other useful forms, for high-speed computation of distances (km) and radial ring score
- contest log scoring in format for simple copying to RSGB etc. log sheets, at 25 contacts per page with sub-totals
- contest QSO map shows locations of all stations worked, and "shades in" and counts squares worked
- simple to use, menu-driven, with locators etc. entered in panel format
- all information, including maps, can be sent to ZX, Alphacom 32 or similar printer
- the hi-res map can be separated out for use in your own programs

**Price: £5**

### SQUIF

SQUares Index File

Creates and maintains files of data recording VHF/UHF locator squares worked and confirmed. It is designed to replace the card index system which many operators keep for this purpose.

Each file may contain up to 255 records, each containing the square designator (either IARU universal locator or QRA locator may be entered and freely mixed), callsign of station worked and date of contact, plus an indicator to note if QSL card has been received.

Information can be displayed or printed (on ZX, Alphacom 32 or similar printer) in a number of useful forms, including lists of confirmed squares suitable for use in an award claim. A rapid sort in alphabetic/numeric order is available.

The worked or QSL'd squares can also be displayed or printed "shaded in" on a high resolution map of Europe.

All searching, sorting and moving of data is done by machine code routines, making these operations virtually instantaneous. Files may be saved on tape, microdrive or Opus disk.

**Price: £5**

Each program is supplied on cassette tape, and will automatically back up onto microdrive or Opus disk if desired. A detailed instruction booklet is included with each program. Programs are compatible with any 48K or 128K Spectrum model.

Prices include packing and postage within the U.K.

**Overseas orders:** please add 50p (Europe) or £1 (elsewhere) per order towards postage costs. Payment in Sterling only, by cheque drawn on a UK bank, bankers order, Eurocheque or British Postal Order.

Please make cheques, etc. payable to "N.P. Taylor".

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